Index to Volume 19

How To Use This Index

This index is of similar form to the Cumulative Index of this journal, published in November, 1939 and is composed of two main divisions: the Author Index and the Subject Index.

The Subject Index to Volume 19 of *The Journal of the Acoustical Society of America* lists the titles of all the papers, abstracts, and patents under twelve section headings as follows: 1, Acoustical Society of America; 2, Architectural Acoustics; 3, Books and Bibliographies; 4, Ear and Hearing; 5, Applied Acoustics; Instruments and Apparatus; 6, Musical Instruments and Musics; 7, Noise; 8, Standards; 9, Speech and Singing; 10, Ultrasonics; 11, Waves and Vibrations; and 12, General, Unclassified. Each of these sections is further divided into a considerable number of decimally numbered subjects, which are listed below under the heading, "Classification of Subjects." Each subject is divided into four parts entitled Papers, Abstracts, Subtitles, and Patents. Under Papers will be found the original titles of all the papers appearing in the journal on that subject. Under Abstracts are listed the titles of the papers presented at meetings. Since a great amount of valuable material appears in the journal in papers whose titles cannot fully describe all the subjects which the papers cover, some subtitles of papers have been indexed under the heading Subtitles. Also under Subtitles are listed Book Reviews (B.R.) and Letters to the Editor (L.E.). When subtitles covering the material did not appear in the paper, they were written; the captions of some of the figures were also included under the heading. Thus, while the Subtitles portion of the index is informal, it is hoped that it will increase the probability of finding the desired information quickly. All patents appearing in the journal are listed under the heading Patents.

References on most subjects can be located immediately by a logical use of the Classification of Subjects below. In case the reference sought is of an unusual character such that there is uncertainty as to the subject under which it might have been classified, this can usually be found quite quickly by the process of eliminating the sections and subjects under which it is quite improbable that it might have been listed. In case of doubt, a title has often been listed under a number of subjects.

Obviously, the Author Index is more convenient than the Subject Index when one knows the name of the author of the paper in which he is interested.

The References to Contemporary Papers on Acoustics are identified in each issue by the same decimal numbers listed below, and may be consulted for references in other journals than our own. In Volume 19 these references will be found on pages 263, 374, 510, 706, 926, and 997.

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Reaction of small enclosures on the human voice. Part I. Specifications required for satisfactory intelligibility. Charles T. Morrow. 19: 645—1947
Some notes on the measurement of acoustic impedance. Leo L. Beranek. 19: 420—1947

ABSTRACTS
Continuously variable standard acoustic impedance. J. E. White. 19: 729—1947
Measurement of impedance to sound in water. F. D. Fay, R. L. Brown, and O. V. Fortier. 19: 732—1947

SUBTITLE
Short-tube method for measurement of impedance. Richard K. Cook. 19: 922—1947

PATENT
Method of and means for measuring mechanical impedance. Winfield R. Koch. 19: 278—1947

5.4 Analyzers and Filters. Acoustic Filters. Oscillographs (see also 5.15)

PAPERS
Investigations on acoustic resonators. H. Samulon. 19: 191—1947
Methods of measuring speech spectra. S. S. Stevens, J. P. Egan, and G. A. Miller. 19: 771—1947

5.51 Broadcasting

Acoustic constant of enclosed spaces correlatable with their apparent liveness. J. P. Maxfield and W. J. Albersheim. 19: 71—1947
Convex wood splays for broadcast and motion picture studios. Michael Rettinger. 19: 343—1947
Effects of impulsive interference upon a-m voice communication. J. C. R. Licklider and S. J. Goffard. 19: 653—1947
Frequency range preference for speech and music. Harry F. Olson. 19: 549—1947
Premodulation clipping in a-m voice communication. K. D. Kryter, J. C. R. Licklider, and S. S. Stevens. 19: 125—1947
Review of criteria for broadcast studio design. H. M. Gurin and G. M. Nixon. 19: 404—1947

ABSTRACTS
Acoustic constant of enclosed spaces correlatable with their apparent liveness. J. P. Maxfield and W. J. Albersheim. 19: 288—1947
Convex wood splays for broadcast and motion picture studios. Michael Rettinger. 19: 287—1947
Effects of noise on radio communication. J. C. R. Licklider and S. J. Goffard. 19: 734—1947
Frequency range preference for speech and music. Harry F. Olson. 19: 731—1947
Review of criteria for studio design. George M. Nixon and Herman M. Gurin. 19: 287—1947
Use of irregular boundaries in studio design. K. C. Morrical. 19: 287—1947

SUBTITLE
Discussion on broadcasting studio symposium. William A. Jack. 19: 255—1947 L.E.

PATENTS
Reverberation modulator for echo effect. Maurice Parisier. 19: 715—1947
Reverberations modulator. Maurice Parisier. 19: 715—1947

5.6 Chronographs

PATENT
Electrical apparatus. Robert B. Albright. 19: 523—1947

5.7 Frequency Standards. Frequency Measuring and Recording Instruments

PAPERS
Electrical method of measuring the intonation of cup mouthpiece instruments. J. C. Webster. 19: 902—1947

ABSTRACT
Stroboscopic frequency measurement. Earle L. Kent. 19: 731—1947

5.8 Loudspeakers. Horns (see also 5.13 and 5.17)

PAPERS
Asymmetrical vibrations of cones. Piero Giorgio Bordoni 19: 146—1947
Cones as underwater transducer reflectors. Roland E. Mueser. 19: 952—1947
Coordinates and the reciprocity theorem in electromechanical systems. John W. Miles. 19: 910—1947
General theory of passive linear electroacoustic transducers and the electroacoustic reciprocity theorem. II. Henry Primakoff and Leslie L. Foldy. 19: 50—1947
Simplified method for determining transducer directivity index. Paul M. Kendig and Roland E. Mueser. 19: 691—1947
Two parabolic reflector underwater transducers. J. R. Reitz and R. E. Mueser. 19: 35—1947
Violation of the reciprocity theorem in linear passive electromechanical systems. H. Jefferson. 19: 502—1947

SUBTITLE
Reciprocality in transducers. Horace M. Trent. 19: 502—1947 L.E.
Self-reciprocity calibration of electroacoustic transducers. Edwin L. Carstensen. 19: 702—1947 L.E.

PATENTS
Further remarks on reciprocity. Edwin M. McMillan 19: 922—1947
High frequency vibrator. Edwin E. Truner, Jr. 19: 715—1947
Loud-speaker. Maxim L. Graham. 19: 278—1947

5.9 Microphones, Vibration Microphones. Microphone Calibration Equipment

PAPERS

Acoustical impedance of enclosures. Fred B. Daniels. **19**: 569—1947

Cones as underwater transducer reflectors. Roland E. Mueser. **19**: 952—1947

Coordinates and the reciprocity theorem in electromechanical systems. John W. Miles. **19**: 910—1947

Further remarks on reciprocity. Edwin M. McMillan. **19**: 922—1947

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Magnetic throat microphones of high sensitivity. Daniel W. Martin. **19**: 43—1947

Measurement conditions influencing the front-to-back discrimination of an underwater hydrophone. Laymon N. Miller. **19**: 59—1947

Measurement of electromotive force of a microphone. Richard K. Cook. **19**: 503—1947

Mechano-electronic transducers. Harry F. Olson. **19**: 307—1947

Performance of the anechoic room of the Parmly Sound Laboratory. H. C. Hardy, F. G. Tyzzer, and H. H. Hall. **19**: 992—1947

Two parabolic reflector underwater transducers. J. R. Reitz and R. E. Mueser. **19**: 35—1947

Practical application of the reciprocity theorem in the calibration of underwater sound transducers. Paul Ebaugh and Roland E. Mueser. **19**: 695—1947

Simplified method for determining transducer directivity index. Paul M. Kendig and Roland E. Mueser. **19**: 691—1947

ABSTRACTS

Construction and design of Parmly Sound Laboratory and anechoic chamber. Peter J. Mills. **19**: 737—1947

Electroacoustic reciprocity theorem. R. J. Kennedy. **19**: 291—1947

Measurement conditions influencing the front-back discrimination of an underwater hydrophone. Laymon N. Miller. **19**: 284—1947

Mechano-electronic transducer. Harry F. Olson. **19**: 291—1947

Performance of the anechoic room in the Parmly Laboratory. H. C. Hardy, F. G. Tyzzer, and H. H. Hall. **19**: 737—1947

SUBTITLES

Area factor in microphone (S/N) ratio. Daniel W. Martin. **19**: 254—1947 L.E.

Real-voice response characteristics of carbon, ANB-M-Cl, and magnetic MC-253-A, microphones in an oxygen mask, A-14, at sea level and high altitude. **19**: 120—1947

Reciprocality in transducers. Horace M. Trent. **19**: 502—1947 L.E.

Self-reciprocity calibration of electroacoustic transducers. Edwin L. Carstensen. **19**: 702—1947

Violation of the reciprocity theorem in linear passive electromechanical systems. H. Jefferson. **19**: 502—1947 L.E.

PATENTS

Apparatus for testing microphones. Henry John Houlgate and Philip David Rhodes Marks. **19**: 519—1947

Condenser transmitter-amplifier system. Robert R. Galbreath. **19**: 390—1947

Electroacoustic apparatus and method of using same. Frank Massa. **19**: 390—1947

Microphone. Charles E. Fraser. **19**: 278—1947

Pick-up. Bernard F. McNamee. **19**: 520—1947

Sound receiver. Harvey C. Hayes. **19**: 935—1947

Sound receiving system. Leslie L. Foldy. **19**: 390—1947

Sound translating device. Robert Black, Jr. **19**: 520—1947

Transducer. Dean R. Christian. **19**: 715—1947

Transducer. Stephen B. Collins. **19**: 278—1947

Vibration eliminator for service cords and conductors of electrical apparatus. Albert Morton Hathaway. **19**: 391—1947

5.10 Navigational Instruments. Depth and Altitude Measuring Instruments. Geophysical Prospecting. Underwater Sound. Submarine Detectors (see 11.9)

PATENTS

Acoustic mine-sweeping device. Hugh B. Freeman and Bernard A. Wiener. **19**: 279—1947

Acoustical apparatus. Philip T. Russell. **19**: 393—1947

Acoustic device. Lee G. Bostwick. **19**: 935—1947

Audible indication for radar. Eric William Bull. **19**: 520—1947

Compressional wave radiator. Warren P. Mason. **19**: 935—1947

Electromechanical device. Lee G. Bostwick and John H. King. **19**: 935—1947

Electromechanical device. William R. Harry. **19**: 935—1947

Electronic circuit. George W. Cook. **19**: 716—1947

Impact-operated release mechanism. **19**: 717—1947

Locating equipment. Stanford Goldman. **19**: 718—1947

Magnetostrictive oscillator. Helge Fabian Rost and Per Harry Elias Claesson. **19**: 391—1947

Magnetostriction transducer. Francis P. Bundy. **19**: 279—1947

Means for detecting submarine mines. Clifford S. Livermore. **19**: 717—1947

Moisture control in an electromechanical device. Lee G. Bostwick. **19**: 935—1947

Piezoelectric apparatus. Adolph R. Morgan. **19**: 521—1947

Prismatic and high power-compressional wave radiator and receiver. Warren P. Mason. **19**: 935—1947

Range finder. Herbert Hoover, Jr. **19**: 522—1947

Ranging system. Hugo Benioff. **19**: 1007—1947

Reception of transmission of sound vibrations. Thomas John Robert Bright. **19**: 279—1947

Recording system in seismic surveying. Joseph Daniel Eisler and Joseph Audley Sharpe. **19**: 520—1947

Seismic exploration system. Herbert Hoover, Jr. 19: 521—1947
Signaling apparatus. Loy E. Barton and Horace R. Dyson. 19: 521—1947
Signaling apparatus. Wallace W. Dewhurst. 19: 392—1947
Signaling apparatus. John S. Seigh and Alexander Murdoch, Jr. 19: 522—1947
Signal apparatus. Donald E. Watts and Paul C. Gardiner. 19: 718—1947
Sound detecting system. Thomas A. Read. 19: 718—1947
Submarine detecting buoy. Maurice F. Neuhof. 19: 391—1947
Submarine signaling. Edwin E. Turner. 19: 717—1947
Submarine signal device. William R. Harry and Frank F. Romanow. 19: 935—1947
Time interval meter. Frank Rieber. 19: 719—1947
Tunable underwater signal source. Lee G. Bostwick. 19: 935—1947
Wave signal direction finder. Harold M. Lewis. 19: 716—1947
Well sounding microphone. John T. Kramer. 19: 522—1947

5.11 Oscillators

PATENT
Frequency changing apparatus and method. Earle L. Kent. 19: 522—1947

5.12 Phase Meters

ABSTRACTS
Standard lag line for phase measurement. O. H. Schuck. 19: 736—1947
The type 310-A-Z-angle meter, a new instrument for electrical electroacoustic measurements. L. E. Packard. 19: 736—1947

5.13 Public Address Systems and Sound Picture Installation

PAPER
Identification of musical instruments when heard directly and over a public-address system. Halson V. Eagleson and Oran W. Eagleson. 19: 338—1947

ABSTRACT
Identification of musical instruments when heard directly and over a public-address system. Halson V. Eagleson. 19: 291—1947

PATENTS
Announcing method and system. Leslie J. Anderson. 19: 280—1947
Sound reproducing system. Harold J. Veritch. 19: 523—1947
Voice amplifying device. Allen L. Patterson. 19: 719—1947

5.15 Sound Level Meters. Level Recorders. Sound Pressure Measurement (see also 5.4)

PAPER
A recorder of difference of level. James M. Lawther and John G. King. 19: 966—1947

ABSTRACTS
Instrumentation for the measurement of sound pressure level with the Western Electric 640—AA microphone. Paul S. Veneklasen. 19: 290—1947
New logarithmic electronic indicator. A. Wilson Nolle. 19: 737—1947

SUBTITLE
Decibel notation. V. V. L. Rao. 19: 509—1947 B.R.

PATENT
Direct reading sound pressure pressure meter. Francis M. Wiener and Robert L. Wallace, Jr. 19: 280—1947

5.16 Sound Recording and Reproducing

PAPERS
Acoustic constant of enclosed spaces correlatable with their apparent liveness. J. P. Maxfield and W. J. Albersheim. 19: 71—1947
Convex wood splays for broadcast and motion picture studios. Michael Rettinger. 19: 343—1947
Curvature meter for use in disk recording. Ludwig W. Spemeyer. 19: 161—1947
Distortion reducing stylus for disk reproduction. E. F. McClain, Jr. 19: 326—1947
Erratum: Measurement of recording characteristics by means of light patterns. B. B. Bauer. 19: 255—1947
Frequency range preference for speech and music. Harry F. Olson. 19: 549—1947
Measurement of mechanical compliance and damping of phonograph pick-ups. B. B. Bauer. 19: 319—1947
Recent developments in magnetic recording for motion picture film. Marvin Camras. 19: 322—1947
Recording studio acoustics. Lonsdale Green, Jr. and James Y. Dunbar. 19: 412—1947
Some factors influencing the choice of a medium for magnetic recording. Lynn C. Holmes. 19: 395—1947
Sound embossing at the high frequencies. Milton Morse. 19: 169—1947
Improved theory of the light pattern method for the modulation measurement in groove recording. J. Hornbostel. 19: 165—1947
Wire recorder wow. Arthur W. Sear. 19: 172—1947

ABSTRACTS
Binaural magnetic recorder. M. Camras and R. E. Zenner. 19: 731—1947
Distortions peculiar to sound recording on motion picture film. R. Paul Ireland. 19: 288—1947
Design problems on magnetic recording equipment. S. J. Begun. 19: 289—1947
Disk recording studio acoustics. J. Y. Dunbar and Lonsdale Green, Jr. 19: 287—1947
Frequency range preference for speech and music. Harry F. Olson. 19: 731—1947
General principles of optical recording on film. John A. Maurer. 19: 288—1947
Master wire recorder. J. S. Boyers and R. E. Zenner. 19: 289—1947

Measurement and calculation of under-signal noise in magnetic recording. D. M. Chapin. 19: 731—1947
Method of reducing amplitude distortion in engraving lateral electrical transcriptions. C. E. Harrison. 19: 288—1947
On the absolute calibration of phonograph test records by means of light patterns. Weiant Wathen-Dunn. 19: 288—1947
Recent developments in magnetic recording for motion picture film. Marvin Camras. 19: 289—1947
Soliloquy on wire recorder wow. Arthur W. Sear. 19: 289—1947
Some factors influencing the choice of a medium for magnetic recording. Lynn C. Holmes. 19: 288—1947
Some physical aspects of magnetic recording. Otto Kornei. 19: 289—1947
System for reducing scratch in record reproduction. Richard W. Carlisle. 19: 288—1947
Wow meter. W. W. Hansen. 19: 289—1947

SUBTITLE

Electric phonograph pick-up. 19: 315—1947

PATENTS

Angle modulated wave reproducing system. Chester M. Sinnett. 19: 524—1947
Apparatus and method for magnetic recording. Semi Joseph Begun. 19: 935—1947
Electric pick-up. Harold T. Faus. 19: 720—1947
Electric pick-up. Harold T. Faus. 19: 392—1947
Electrical sound reproducing apparatus. Harry C. Warner. 19: 280—1947
Humless electrodynamic pick-up. Donald F. Balmer. 19: 720—1947
Magnetic recorder head. Marvin Camras. 19: 523—1947
Magnetic signal reproducing means. Semi Joseph Begun. 19: 720—1947
Magnetizing and erasing head arrangements for magnetic recorders. Marvin Camras. 19: 935—1947
Method of and means for recording electrical impulses and impulse record produced thereby. John A. Mauer. 19: 280—1947
Method of and system for recording audiofrequency waves. Henry E. Roys. 19: 280—1947
Phonograph pick-up device. Ralph M. Heintz. 19: 525—1947
Phonograph record compositions. James S. Massarene. 19: 392—1947
Photographic sound film noise reduction system. Arnold Poulsen and Axel Carl Georg Petersen. 19: 719—1947
Phonographic stylus. Fred E. Williamson. 19: 935—1947
Pick-up arm. Arthur F. Worsham. 19: 524—1947
Record reproducing system. Chester M. Sinnett and Herbert Belar. 19: 393—1947
Recorder. Roy Dally, Francis H. Goldsmith, and David J. Munroe. 19: 524—1947
Recording and reproducing head for magnetic recording. William B. Latchford and Lynn C. Holmes. 19: 524—1947
Signal-translating apparatus. Rene Snepvangers. 19: 937—1947
Sound recording composition. Horace P. Billings. 19: 280—1947
Stroboscopic apparatus for phonographs. William L. Nies. 19: 523—1947
Vibration translating device. William S. Bachman. 19: 720—1947

5.17 Telephone. Telephone Receivers

PAPERS

Construction and calibration of an improved bone-conduction receiver for audiometry. R. W. Carlisle, H. A. Pearson, and P. R. Werner. 19: 632—1947
Headphone measurements and their interpretation. Daniel W. Martin and Leslie J. Anderson. 19: 63—1947
Physiological noise generated under earphone cushions. W. J. Brogden and George A. Miller. 19: 620—1947

ABSTRACTS

Magnitude of the physiological noise generated under earphone cushions. W. J. Brogden and G. A. Miller. 19: 734—1947
Modern version of the old theory of telephone quality. Harvey Fletcher. 19: 291—1947

PATENTS

Cut-out device for telephone transmitters. Gerald E. Brittingham. 19: 721—1947
Desk telephone set. Ralph E. Hersey. 19: 281—1947
Telephone transmitter. George H. Brodie. 19: 935—1947
Telephone transmitter and receiver. James Samuel Paterson Roberton and Michael Lawrence Gayford. 19: 525—1947
Transducer. Arthur S. Howell. 19: 281—1947
Vibrating headphone band. Lincoln Thompson. 19: 393—1947

5.18 Thermophones (see also 5.9)

PAPER

Thermophone as a source of sound in liquid helium and liquid hydrogen. Henry A. Fairbank, William M. Fairbank, and C. T. Lane. 19: 475—1947

5.19 Tuning Forks

PATENT

Oscillation generator. Maurice Artzt. 19: 281—1947

5.21 Vibration Devices (see also 5.9)

PAPER

The measuring of impact sound transmission through floors. Fritz Ingerslev, A. Kjerbye Nielsen, and S. Falck Larsen. 19: 981—1947

PATENTS

Damping flywheels. Henri R. Burnat. 19: 282—1947
Electronic vibration detecting apparatus. Vladimir K. Zworykin and James Hillier. 19: 525—1947

Liquid type vibration damper. Albert M. Rockwell. 19: 393—1947
Resilient mounting. T. L. Yates. 19: 282—1947
Resilient wheel. Clarence E. Workman. 19: 282—1947
Torsiograph. L. F. Hope. 19: 393—1947
Torsiograph. Thomas Sidney Wilson and Richard Zdanowich. 19: 721—1947
Torsional vibration absorber. Alfred R. Holowenko. 19: 394—1947
Vibrometer. Donald E. Gillum and Charles J. Gallent. 19: 935—1947

6. Musical Instruments and Music

6.1 General, Unclassified

PAPERS

Indentification of musical instruments when heard directly and over a public-address system. Halson V. Eagleson and Oran W. Eagleson. 19: 338—1947
Institute of musical science—a suggestion. Harvey Fletcher. 19: 527—1947
Music as an aid to healing. R. C. Lewis, Harold Burris-Meyer, and R. L. Cardinell. 19: 544—1947
Music in industry today. R. L. Cardinell and Harold Burris-Meyer. 19: 547—1947
Musical tone qualities as a factor in expressiveness. Abe Pepinsky. 19: 542—1947
Slide rule for the study of music and musical acoustics. L. E. Waddington. 19: 878—1947
Place of acoustics in the future of music. Harold Burris-Meyer. 19: 532—1947

ABSTRACTS

Comparison and demonstration of two systems of intonation of keyboard instruments. W. B. White. 19: 727—1947
Division of the octave. Elwood S. Roeder. 19: 727—1947
Dynamic tone envelope of harmonic components of musical sounds. J. M. Schmidt. 19: 724—1947
Indentification of musical instruments when heard directly and over a public-address system. Halson V. Eagleson and Oran W. Eagleson. 19: 291—1947
Imagery in describing tone quality. Vincent Salmon. 19: 731—1947
Institute of musical science—a suggestion. Harvey Fletcher. 19: 722—1947
Metronomic tuning of keyboard instruments in the tempered scale. William D. Mitchell. 19: 726—1947
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Musical instruments in nineteen-tone equal temperament. Tillman H. Schafer. 19: 730—1947
Musical scales, intonation, and theory. M. F. Meyer. 19: 730—1947
Musical tone qualities as a factor in expressiveness. Abe Pepinsky. 19: 727—1947
Musician looks at modern acoustics. Howard Hanson. 19: 722—1947
Remarks on just intonation and musical scales. R. Clark Jones. 19: 727—1947
Report by the music committee. Harold Burris-Meyer. 19: 722—1947
Slide-rule for the study of music and musical acoustics. L. E. Waddington. 19: 727—1947

PATENTS

Music-teaching device. Floyd A. Firestone. 19: 935—1947
Musical toy. James Clayman. 19: 394—1947

6.2 Bells, Xylophones, Other Instruments Having Rigid Vibrators

PATENT

Balanced suspension for chimes. Louis A. Massa. 19: 394—1947

6.3 Brass Wind Instruments (lip vibrated)

PAPERS

Electrical method of measuring the intonation of cup mouthpiece instruments. John C. Webster. 19: 902—1947
Performance of cup-mouthpiece instruments. T. H. Long. 19: 892—1947

ABSTRACTS

Electrical method for measuring the intonation of cup mouthpiece instruments. John C. Webster. 19: 723—1947
Performance of cup-mouthpiece instruments. T. H. Long. 19: 723—1947

6.5 Pipe Organs

ABSTRACT

High frequency whistles. W. L. Nyborg, H. K. Schilling, and H. A. Thorpe. 19: 287—1947

6.6 Pianos and Other Keyboard Stringed Instruments

PAPER

Decay rates of piano tones. Daniel W. Martin. 19: 535—1947

ABSTRACTS

Decay rates of piano tones. Daniel W. Martin. 19: 722—1947
Comparison and demonstration of two systems of intonation of keyboard instruments. W. B. White. 19: 727—1947

6.7 Violin Family. Stringed Instruments except Keyboard Type

PAPER

Plate vibration of stringed instruments at the wolfnote. J. A. Kessler. 19: 886—1947

ABSTRACTS

Laboratory studies on the violin and other bowed string instruments. Arnold M. Small. 19: 724—1947
Plate vibration of stringed instruments at the wolfnote. J. A. Kessler. 19: 723—1947

PATENT
Design for a violin or similar article. Louis G. Klages. 19: 525—1947

6.8 Wood Winds

PAPER
Analyses of the tones of wooden and metal clarinets. Sam E. Parker. 19: 415—1947

PATENTS
Instrument mouthpiece. Joseph S. Murano. 19: 394—1947
Ligature for saxophone mouthpieces. Mario Maccaferri. 19: 935—1947

6.9 Electrical Musical Instruments

ABSTRACTS
Baldwin electronic organ. J. F. Jordan. 19: 723—1947
Connsonata. Earle L. Kent. 19: 289—1947
Photo-electronic synthesis of musical tones. P. M. Erlandson and R. B. Watson. 19: 723—1947

SUBTITLE
Decay rates for electronic piano. 19: 539—1947
Electronic musical instruments. B. F. Miessner. 19: 996—1947 L.E.

7. Noise

7.1 General, Unclassified (see also 5.15)

PAPERS
Physiological noise generated under earphone cushions. W. J. Brogden and George A. Miller. 19: 620—1947
Powerful high frequency siren. C. H. Allen and I. Rudnick. 19: 857—1947

ABSTRACT
Effect of airplane noise on human efficiency. J. P. Egan, S. S. Stevens, T. H. Waterman, Joseph Miller, and R. H. Knapp. 19: 292—1947

7.3 Audiograms of Noise

SUBTITLE
Sound propagation in non-homogeneous and moving media. D. I. Blokhintzev (translated by Julian Eisenstein). 19: 705—1947 B.R.

7.7 Machinery Noise

PAPERS
Acoustical materials and acoustical treatments for aircraft. R. H. Nichols, Jr., H. P. Sleeper, Jr., R. L. Wallace, Jr., and H. L. Ericson. 19: 428—1947
Detection of internal leaks in aircraft hydraulic systems. Richard G. Nuckolls and Horace M. Trent. 19: 364—1947
Sound control in airplanes. Leo L. Beranek and H. Wayne Rudmose. 19: 357—1947

ABSTRACTS
Noise reduction in signal corps hand generators. Part I: Internal quieting of the generators. Sidney Berg. 19: 737—1947
Noise reduction in signal corps hand generators. Part II: Acoustic housings for the generators. George W. Sherard. 19: 737—1947

9. Speech and Singing

9.1 General, Unclassified

PAPERS
Effects of distortion on the intelligibility of speech at high altitudes. G. A. Miller and S. Mitchell. 19: 120—1947
Factors governing the intelligibility of speech sounds. N. R. French and J. C. Steinberg. 19: 90—1947
Reaction of small enclosures on the human voice. Part I: Specifications required for satisfactory intelligibility. Charles T. Morrow. 19: 645—1947

ABSTRACTS
Reaction of small enclosures on the human voice. Part II: Analyses of vowels. Charles T. Morrow. 19: 722—1947
X-ray motion-picture studies of the vocal organs. R. Curry. 19: 723—1947

SUBTITLES
Biological and statistical research concerning the speech of 216 Dutch students. L. Kaiser. 19: 262—1947 B.R.
The vowel: Its nature and structure. T. Chiba and M. Kajiyama. 19: 261—1947 B.R.

9.3 Articulation Testing. Articulation *versus* Loudness, Frequency Range, Noise, Distortion, and Reverberation

PAPERS
Effects of distortion on the intelligibility of speech at high altitudes. G. A. Miller and S. Mitchell. 19: 120—1947
Factors governing the intelligibility of speech sounds. N. R. French and J. C. Steinberg. 19: 90—1947
Premodulation clipping in a-m voice communication. K. D. Kryter, J. C. R. Licklider, and S. S. Stevens. 19: 125—1947

ABSTRACT
Reaction of small enclosures on the human voice. Part I: Specifications required for satisfactory intelligibility. Charles T. Morrow. 19: 293—1947

9.5 Frequency Analyses of Speech Sounds

PAPER
Methods of measuring speech spectra. S. S. Stevens, J. P. Egan, and G. A. Miller. 19: 771—1947

SUBTITLES
Throat response curves. 19: 46—1947
The vowel: Its nature and structure. T. Chiba and M. Kajiyama. 19: 261—1947 B.R.

9.6 Instruments Relating to Speech and Singing

PAPER
Methods of measuring speech spectra. S. S. Stevens, J. P. Egan, and G. A. Miller. 19: 771—1947

SUBTITLE
Diagram of improved artificial voice. 19: 647—1947

10. Ultrasonic (Supersonic)

10.1 General, Unclassified

ABSTRACT

Some properties of ultrasonic fields. Frank H. Slaymaker, Harry D. Polster, and Willard F. Meeker. **19**: 732—1947

10.3 Ultrasonic Instruments

PAPERS

Detection of internal leaks in aircraft hydraulic systems. Richard G. Nuckolls and Horace M. Trent. **19**: 364—1947

High intensity ultrasonics: the power output of a piezoelectric quartz crystal. Leo F. Epstein, Walther M. A. Andersen, and Lewis R. Harden. **19**: 248—1947

Measurement and specification of ultrasonic lenses. Paul J. Ernst. **19**: 474—1947

Precision ultrasonic interferometer for liquids and some velocities in heavy water. D. R. McMillan, Jr., and R. T. Lagemann. **19**: 956—1947

Ultrasonic measurement of wall thickness in Diesel cylinder liners. Francis W. Struthers and Horace M. Trent. **19**: 368—1947

ABSTRACTS

Detection of internal leaks in aircraft hydraulic systems. Richard G. Nuckolls and Horace M. Trent. **19**: 284—1947

High frequency whistles. W. L. Nyborg, H. K. Schilling, and H. A. Thorpe. **19**: 287—1947

Micro-displacement meter. R. F. Post and R. L. Howard. **19**: 283—1947

Supersonic radar trainers. Charles E. Teeter, Jr. **19**: 286—1947

Ultrasonic measurement of wall thickness in Diesel cylinder liner. Francis W. Struthers and Horace M. Trent. **19**: 284—1947

Ultrasonic lenses and transmission plates. Paul J. Ernst. **19**: 285—1947

SUBTITLES

Mechanical breakdown of a quartz crystal in oil. **19**: 253—1947

Piezoelectricity. Walter Guyton Cady. **19**: 261—1947 B.R.

Quartz family minerals. H. C. Dake, Frank L. Fleener, and Ben Hur Wilson. **19**: 262—1947 B.R.

PATENT

Supersonic inspection device. Floyd A. Firestone. **19**: 721—1947

10.4 Gases, Ultrasonic Velocities, Dispersion, and Absorption (see also 11.3)

PAPERS

High frequency absorption in air and other gases. L. J. Sivian. **19**: 914—1947

Ultrasonic propagation in open air. H. K. Schilling, M. P. Givens, W. L. Nyborg, W. A. Pielemeier, and H. A. Thorpe. **19**: 222—1947

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